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MEDIC TIMES

The Journal of the
American Medical Profession

MAR 4 1947

Carcinoma of the Cervix

Inguinal Hernia Surgery

Tophaceous Gout • Research

The First Medical Journal

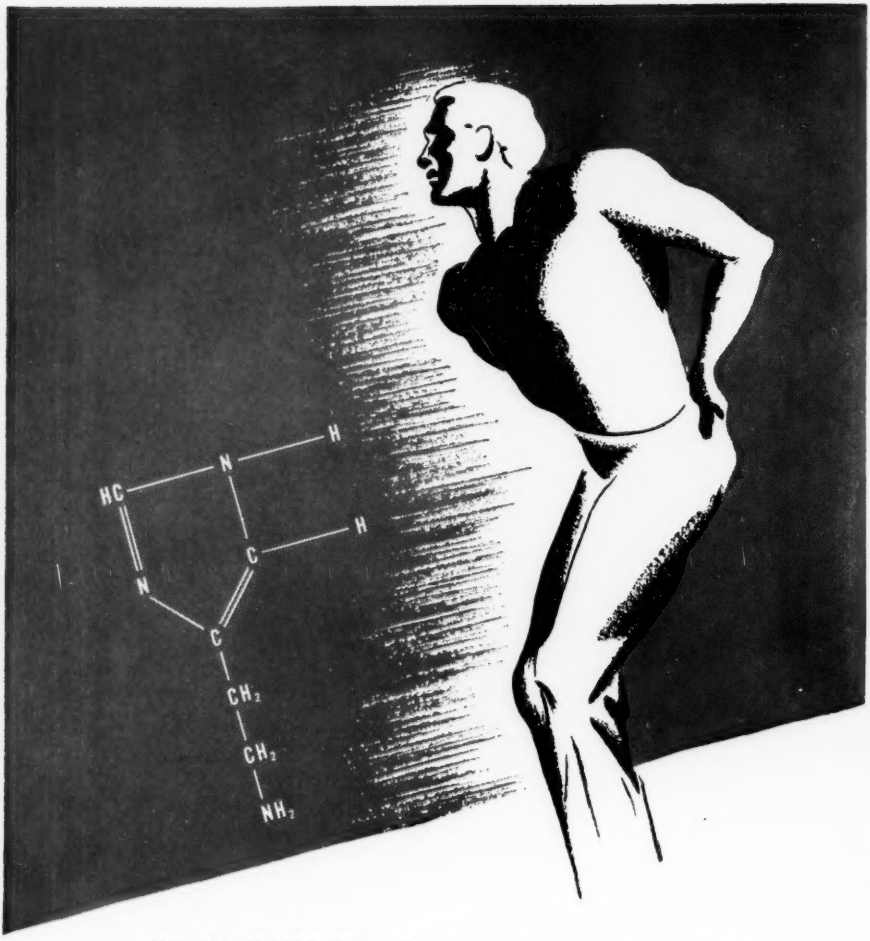
Medical Book News

Editorials

Contemporary Progress

Vol. 74

No. 2



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EDITORIALS

MEDICAL PROGRESS

Highlights in medical progress for 1946 may now be listed as follows:

Atomic energy research and nuclear therapy
Synthesis of penicillin and vitamin A
Chloroquin
Pentaquine
Rehabilitation of the handicapped
Hill-Burton Bill
National Mental Health Act
Further development of voluntary plans for better distribution of medical care

DOCTOR SHICKELGRUBER

The first world war spawned a Hitler for the second world war. If another Hitler is in process of being spawned for the third world war he is now in our midst. Who is he? Where is he? Is he a doctor?

Perhaps the most despicable figures of World War II were the debased doctors who did the "eugenic" work of a degenerate State's fuehrer. Would not such a breed be the natural precursors of some barbarous Doctor Schickelgruber hurling idealogy and atom bombs?

A nationalized profession, captured by the sick State in a new Dark Age, would enhance the chances of a super-Hitler, graduate of some weird school of the future and specializing in euthanasia.

Father, forgive the naive present-day proponents of euthanasia, for they know not what they do!

THE PROPHYLAXIS OF POLITICAL CHARLATANRY

"Unless the medical profession is guaranteed by government and the tax-paying public, through fair and workable legislation, of a stable, continuing, and reliable economy based on less theory and more common sense, 'health' insurance either government-controlled or on a private enterprise basis will not be worth the paper it is written on."

The foregoing passage terminates an editorial in the December 1, 1946 issue of the *New York State Journal of Medicine* in which it is suggested that Senator Wagner can be as wrong with his national sickness insurance plans as he has proved to be with his National Labor Relations Act. The passage quoted admirably summarizes the premises upon which good medicine must be based.

"In a disintegrating economy . . . no credible structure which will support even existing private medical service for long except on a hit or miss basis can be created."

The editorial properly notes the futility, if not dishonesty, of holding out to the people the bait of social benefits which are manifestly unattainable in the absence of a working economy.

It is the absence of a good working economy, in our opinion, that has spawned the compulsory insurance project. Under a good working economy such grotesque proposals would not be thought of; a self-respecting and economically undefrauded citizenry would be able to maintain proper relations with the medical profession.

BATTLE OF BRITAIN

The British Medical Association voted in December against entering negotiations with the Government concerning pay and terms of employment, since the question was one of freedom as against slavery under the State. They had seen enough of haggling over fees under National Health Insurance. What could be expected under the new National Health Service Bill, promising free medical care to *every* Briton, but even worse haggling?

The action of the association is the more impressive when one contemplates the Gov-

—Concluded on page 36

Carcinoma of the Cervix

William P. Smith, M.D., F.A.C.S.

Columbus, Ohio

Incidence

In more than 90 per cent of cases in which carcinoma of the cervix is found, the patients are past 30 years of age. The disease is quite evenly distributed between the ages of from 30 to 50. The greatest incidence, in our experience, is between 35 to 45 years of age. Few patients under 20 years of age or past 70 years of age are afflicted with carcinoma of the cervix. The above percentages apply to the colored race and the white race. The highest percentage of operative cases is found in the well-to-do or educated patients; there is no predilection for the poor over the rich. Perhaps those who are financially able seek medical assistance earlier than the poorer class of patients. The character and caliber of the physician, in the community, may be responsible for early surgical care or delayed assistance by a qualified specialist.

About 97 per cent of cervical carcinomas occur in married women while only 3 per cent of non-parous women develop the disease.

Etiology

There is much discussion on the subject of what causes cancer. We are told that repeated irritation, chemical or mechanical, is a predisposing cause; that trauma resulting from pregnancy or instrumentation resulting in cervical lacerations with thickening of the cervical lips followed by eversion and erosion may be a causative factor. Much stress is placed on the various types of irritation of the tissues.

We have seen many cases of complete prolapsus uteri with chronic ulceration of the cervical and vaginal tissues, yet, only in one case was there a carcinoma present, and this patient had had the prolapse for 34 years and she was 84 years of age when she consulted a physician because of her ailment. Many patients go for years with severe cervical tears plus eversion and erosion and they do not develop cancer.

It is my opinion that patients develop carcinoma because of a cryptic biological change or variation from the normal, which we do not understand, that permits a cellular metaplasia to occur, thus leading to cancer. The change, I am firmly convinced, is of a biochemical nature and I predict that if the cancer research workers will spend more time in investigating the chemistry and less time on germs and other factors, they will some day find a chemical that can be administered intravenously and a cure for cancer will result.

Several years ago we operated upon a patient who had a generalized carcinomatosis of the abdominal viscera and the parietel peritoneum. There was only one area in the entire abdomen that was free from carcinomatous growths. This was a round peritoneal area over a fibroid tumor in the uterus. It was definitely delineated —about the size of an old-fashioned American dollar—with the peritoneum smooth, glistening, and normal. The late Dr. Scott, Professor of Pathology at Ohio State University, performed the autopsy. We explored the abdominal cavity, but no similar area of normal appearing peritoneum was found.

We were amazed to find that the fibroid beneath this normal peritoneal area was solidly calcified. There were several similar tumors present in that uterus, but only the one mentioned above was calcified. The non-calified tumors were covered with malignant growths. These findings should give the oncologists a lead for further biochemical research. I am positive that the findings were not merely accidental or coincidental, but were definitely due to the calcium assimilation in the tumor beneath the peritoneum.

Classification

We use two main groups in our classification of cancer of the cervix:

1. Epithelioma
2. Adenocarcinomas

The portio vaginalis of the cervix is covered with a stratified equamous epithelium, usually ending at the external os. It may extend a variable distance into the cervical canal. The endocervix is lined with high cylindrical cells, usually joining the stratified epithelium at the external os, but often extending beyond its usual limits and encroaching upon the vaginal portion of the cervix, thereby producing the so-called eversion and erosion of the portio vaginalis. Cancers coming from these two varieties of epithelium differ histologically and at times clinically.

The squamous cell cancers or epitheliomas are found more often than those developing from the cells of the endocervix.

Morphologically we have the everting type and the inverting type. We do not know why a particular growth everts and forms a papillary or cauliflower growth while another with identical histopathology inverts to form a nodule in the wall of the cervix with scant evidence of its presence on the surface. Both types may be well circumscribed or they may be diffusely scattered through the cervical tissues.

The different forms may be grouped according to the predominant type of growth. The everting (vegetative, proliferative, cauliflower, papillary) form which comes from the vaginal portion of the cervix is usually a squamous celled (epithelioma) type and may be broadly pedunculate or sessile. As the growth or neoplasm progresses the free portion becomes more massive while the base invades the underlying tissues. The visible portion may distend the cervical canal and even fill the vagina. A large cauliflower mass may form, with very little lateral invasion, yet there may be extensive invasion with but little evidence on the surface.

The inverting (nodular-ulcerative-parenchymatous) types seem to extend up into the cervical tissues, forming a more or less circumscribed mass with fine cancerous processes radiating out into the surrounding peripheral tissues. As the carcinoma progresses it becomes necrotic and ulcerating. It may break down and excavate the cervix, forming a crater, leaving only a shell, or destroying much of the cervix. In the scirrhous form there is less sloughing as increased stroma nourishes the growth. The inverting cancer, unfortunately, does not give rise to early symptoms, and it may be well advanced before it can be detected by inspection or palpation.

We must remember that cancer within the cervix may be either squamous or cylindrical in type and carcinoma on the portio vaginalis of the cervix can be of the cylindrical or squamous cell variety.

Extension

The cancer of the cervix may invade the parametrial structures or metastasize to the iliac nodes. There is no relation to the size of the primary growth, and the occurrence of the metastasis into the lymphatic nodes may exist without apparent invasion of the parametrium. This would indicate that wide excision may cure a large growth while small growths, apparently prognostically favorable from the operative viewpoint, are incurable.

The internal os usually marks the upward extension; the body becoming involved only late in the disease by direct extension through deep tissues of the uterine wall. It rarely extends up along the mucosa and metastases of the uterine wall and endometrium are rare. There may be an occasional involvement of the fallopian tubes, but only in later or more advanced cases.

Vaginal extension is direct and it occurs in most well advanced cases. The lesion advances in the deeper tissues or the vaginal wall to form submucous lumps or indurations, later breaking down, forming ulcers. There may be implants on the vaginal wall or retrograde lymphatic metastasis and direct lymphatic extension.

The bladder, because of its anatomical relations, is involved earlier than the rectum. The bladder is in close relation with the cervix, while the rectum is separated from the latter by the pouch of Douglas. However, extensive invasion may involve the rectum.

The parametrium forms a lymphatic hilus for the cervix through which the lymph channels course to the pelvic nodes. Here we usually get involvement by direct

extension or by metastasis as the growth advances beyond the limit of the cervix.

When the pelvic lymph nodes are involved in cancer of the cervix the prognosis is grave regardless of the treatment.

Symptoms

Pain is a late symptom and often wanting. Leukorrhea or watery discharge may occur early, but often escape notice until the discharge becomes profuse, blood-tinged, offensive and irritating. The offensive odor is due to necrosis and saprophytic invasion of the tissues.

Bleeding may occur following exertion, douches, coitus, or while straining at stool. We must not forget that "interval bleeding past the menopause is not rejuvenation."

Diagnosis

Cancer, in the early stages, cannot be diagnosed by the subjective symptoms. All parous women should have a thorough pelvic examination at least once each year, while some need a check-up more often.

Digital examination as well as inspection of the vagina and cervix must be carefully employed. When the cervix presents a nodule or growth, a granulation area, or ulceration, one should rely only on a biopsy—microscopic examination. A curettage may be necessary to obtain specimens for examination.

Schiller's Test. Normally there is glycogen in the superficial epithelium of the vaginal portion of the cervix. The Schiller's test is made by applying Lugol's solution (1 part iodine, 2 part KI to 300 parts of water) to the cervix. Normally, if there is no desquamation of the superficial layers or a hyperkatosis due to trauma, prolapse, or syphilitic infection, or cancer, the cells will take a mahogany stain in about one minute because the glycogen in the cells is stained by the iodine solution.

I have discarded this test, because it is of practically no value in making a definite diagnosis comparable to the cytological findings under the microscope. Any lesion of the cervix that does not yield to local treatment in a few weeks should be checked by definite histological examination of tissues removed from the site of the lesion.

In all cases in which there is irregular menstruation, either menorrhagia or metrorrhagia, a reasonable medical regimen should be used. If the condition does not respond in a few weeks there must be a careful examination made. When there is bleeding past the menopause, even though perhaps less than 50 per cent are due to cancer, do not continue to treat these patients for "the change of life."

Don't give endocrine "shots" in bleeding cases until you have ruled out malignancy. The liberal use of theelin and other estrogenic substances has become the vogue among some of our physicians. Many of the patients see only the office nurse, but they pay more or less for their visit to the doctor.

Do not give shots when you don't know what else to do. Favor your patients by giving them something less expensive and something that may be less harmful than the internal secretions.

We do not know whether some of these hormones may be carcinogenic under certain conditions in some patients. Over stimulation with estrogenic substances may cause cancer of the breast or perhaps cancer in other organs of the body. No one knows definitely, but if they produce cancer in breasts of mice they may in some cases affect the human.

Do not wait to make a diagnosis of cancer of the cervix until the patient presents herself with a large fungating mass or a large excavation of the cervix with a foul, bloody discharge. If you delay examination until the above findings are present the patient's neighbors will make the diagnosis for you and refer the patient back to you for treatment.

I am not making inane statements. A great many patients are referred to the surgeon and the gynecologist after having received medical treatment for months, without a pelvic examination, and upon examination extreme conditions are noted. Often the case has been delayed until only palliative measures are available.

Treatment

The treatment for carcinoma varies in

different clinics and among various clinicians. There are no definite rules for all cases. There are learned doctors with bizarre ideas. The radical surgeon wants to operate while some of those equipped with radium and x-ray advise against all surgery. They show by statistics that they have a greater percentage of cures by radium alone. Percentages are only relative findings and frequently there is a personal element injected into the figures to make them look good. I do not mean to imply that all statistics are false, but I do recall a statement made by a prominent physician; "there are three kinds of liars; liars, damned liars and statistics."

In extreme cases, cautery followed by radium and x-ray is perhaps alone indicated. When the lesion is apparently confined to the cervix the patient should be treated with radium and x-ray, then within a reasonable time a panhysterectomy should be performed.

Whatever method is used should be based solely upon the most careful consideration of the welfare of the patient.

Cause of Death

The place of origin of the growth, its type, direction and mode of extension determine the cause of death. The occurence and extent of necrosis profoundly influence the course of the disease. A few die from hemorrhage caused by erosion of a large blood vessel. In many the immediate cause of death is infection. Cachexia develops from prolonged bleeding and the absorption of toxins from the necrotic areas. The patient may die of renal insufficiency due to compression of the ureters. Other causes are intestinal obstruction and embolism.

9 Buttles Avenue

Tophaceous Gout: A Case Report

Clement Boccalini, M.D.
Floral Park, N. Y.

THE case is that of an elderly white male, hospitalized in November of 1945 for acute pains in his lower exteremities, and with a history of similar attacks for over fifteen years. At this time he was febrile, with migratory type joint pains involving both knees and both ankles. These pains changed their site of intensity every two to there days, but were invariably more excruciating between night and dawn.

The personal and family history revealed that both parents were free from any disabling disease or chronic ailment; that the patient was reared on a farm and until this foot trouble was always active and able to do strenuous work. He has been a moderate drinker and smoker, and rather attentive to eating a balanced meal. Of note is the fact that a living son has been troubled—about the same number of years as the patient—with a generalized arthritis.

For the past fifteen years the patient has been under medical care for episodes of severe pain of both feet. Each attack left him less and less able to walk properly until this became too painful to attempt. The patient was able to obtain the services of well known specialists and each of these in turn worked him up rather thoroughly. At various times he was under the care of medical and orthopedic men. Innumerable x-rays were taken. Blood chemistries and urine analyses were repeated with special search for gout; spinal taps and neurological consultations were obtained in quest of a spinal disease. After some six years of repeated attacks he was informed that since no known cause could be found for his ailment, it would be necessary to do a nerve block on both ankles. This was performed nine years ago. Since this time he has had occasion to doubt the efficacy of this treatment, although he could bear up under the pain. He has acquired the habit of walking on his heels, with a hesitant gait.

Presented at the Clinical Session of the Associated Physicians of Long Island held at Meadowbrook Hospital on June 11th, 1946.

At home, with the onset of his attack, he was first placed on codeine and neocinchophen. However, his fever rose to 102° orally and in a few days he was unmanageable at home because of pain. He was hospitalized for this reason and in the hope that we might unravel the problem. It was not then clear whether we were dealing with another of "those attacks" or with some other polyarthritic ailment.

On physical examination we were confronted by a short, ruddy and robust male of sixty-seven years, lying in bed, unable to move his lower extremities. His blood pressure and cardiovascular system were normal (he had had a recent normal E.K.G., during a check-up). His lungs were clear throughout. There was no palpable enlargement of liver or spleen; no mass nor tenderness of the abdomen. The upper extremities were negative. The lower extremities were extended in bed and difficult to examine closely. There was swelling of both knees and both ankles, with pain and tenderness in each joint. These were hot and fixed. Another finding of note was small indurations on lobes of both ears. There were no adenopathies and his nose and throat were negative. A neurological examination could not be done at that time, but later was negative.

Urine analysis and blood count were normal. Blood chemistry gave a normal uric acid of 3.5 mg. His sedimentation rate was 22 mm. per hour and considered high. He was placed on salicylates with no immediate benefit but with the addition of penicillin showed a drop to normal temperature. Neither codeine nor morphine (which was necessary because of the severity of pain) seemed to abate the pain; yet when large doses of thiamine were given intramuscularly the patient was relieved of pain and slept.

X-rays were taken and repeated and the findings of bone destruction were startling. There was extensive destruction of both bones of the first metatarsal-phalangeal joint of both feet. The destruction was such that no joint existed; on the right foot there was destruction of the head of the third metatarsal bone. There were hypertrophic changes in both knees. The roentgenologist could not venture an opinion as to the cause of such destruction. An orthopedic consultation was requested. It was Dr. Otho Hudson's concurring opinion that because of the symmetry of destruction, and because of its clinical course, we were dealing with a tophaceous gout. The nodules were later biopsied (from the ear) and found to be loaded with sodium bi-urate crystals.

The patient was again placed on neocinchophen and on a rigid purine-free diet. The Christmas holidays intervened and he was allowed to go home where he continued to improve. Later blood uric acid showed marked increase as his attack subsided, reaching 13.3 mg. and then again coming down to normal as he faithfully followed his routine of diet and medication. He has continued to improve, being able to travel back and forth to the west coast, and though the destructive lesions leave little to hope for in the way of repair, he has been getting around more in the past six months than he was able to for years, prior to this last attack.

199 TULIP AVENUE

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EDITORIALS

—Concluded from page 31

ernment's attempted bribe of $266,000,000. The proposal was that this fund would provide for payments to physicians at retirement or death. The aim was to do away with the old custom of selling practices and thus gain control of the distribution of doctors.

But this situation only sets the stage for a long battle, as the Government plans to carry on negotiations with other doctors more amenable to its aims.

Under the new Service Bill all hospitals would be taken over, many local health centers would be established, more doctors would be created, and complete medical and dental care furnished, all at an expense of $600,000,000 a year.

The First Medical Journal and Some of It's Progeny

The early medical journals of the world resulted from the expansion of cities, the rise of the universities, the founding of medical societies, and the vast extent of the territories served by such central sources. The distances and difficulties involved in travel necessitated some sort of contact with the groups radiating knowledge, experience and progress. This was gradually made possible by a medical press using vernacular media more and more instead of Latin, and by the establishment of a postal service, superseding courier service. The first such postal service was established between Vienna and Brussels in 1516.

The first medical journal appears to have been *Nouvelles Descouvertes sur toutes les Parties de la Médicine* (1679), edited by Nicholas de Blegny (1652-1722), surgeon to Louis XIV. Following this came another French journal, the Abbé de la Roque's *Journal de Médicine* (1681). An English journal, *Medicina Curiosa*, appeared in 1684.

De Blegny's journal, the daddy of all the prolific family of journals that have followed down to date, was a small monthly, averaging about seven pages, featuring general medical matters with admirable brevity, broad interests, and remarkably modern spirit. It carried original articles, case reports, autopsy records, news items, correspondence, etc. Its circulation and contributors were scattered over Europe and it was translated into German and Latin. For some reason de Blegny's colleagues in France resisted his enterprise and even succeeded in having the Parliament attempt suppression; de Blegny then deleted his name as editor and arranged for publication at Amsterdam. When he founded a hospital for the poor at Pincourt his enemies, on some pretext, succeeded in having him jailed for eight years. After serving his sentence he practiced at Avignon and died there in 1772. He made the first city directory (Paris, 1684), invented an elastic truss (1676) and wrote an important work on the medicolegal relations of surgery (1684). An illustration of the medical journal founded by him appears in Guthrie's History of Medicine (1945).

Most of the early journals were short-lived. De Blegny's journal lasted only about three years; the *Medical Transactions of the Royal College of Physicians of London* showed unusual vigor and lasted from 1768 to 1820; the *Transactions of the Medical Society of London*, founded in 1773 and first published in 1810, have continued to date; so also the *Medico-Chirurgical Transactions of the Medical and Chirurgical Society of London*, which appeared in 1809, have continued to date as the well-known *Proceedings of the Royal Society of Medicine*.

But we must distinguish the true medical *journal* from the periodical merely recording *transactions* of this or that organization. By a medical journal we mean a publication presenting not only original papers but matters of general interest, abstracts of current literature, book reviews, etc. In this sense the *Medicina Curiosa* mentioned above closely approached, like de Blegny's journal, our definition.

Oldest existing British *journals* are the *Edinburgh Medical Journal* (1805), the *Lancet* (1823), the *Glasgow Medical Journal* (1828), the *Medical Press and Circular* (1866), the *British Medical Journal* (1857), and the *Journal of Mental Science* (1858).

From 1684 to 1938 Britain has had 1362 periodicals. In the latter year 110 were surviving.

According to Charles Perry Fisher there were in 1911 about 1654 medical periodicals and "allied serials" in the world (about 1200 strictly medical journals, by our definition). In 1927 the Surgeon-Gen-

eral's Library was receiving 1925 periodicals.

Roughly, the *Quarterly Commulative Index Medicus* for 1935 indexed about 1300 *selected* journals; in 1945 about the same number were indexed, showing, apparently, that good medical literature of the world in general, in the latter year, on a selective basis, was holding up surprisingly well, despite the war.

We may infer much from the experience of the Library of the Medical Society of the County of Kings and Academy of Medicine of Brooklyn. In 1939 836 foreign and 730 American journals were available to readers, a total of 1566, whereas in 1945 374 foreign and 717 American journals were in use, a total of 1091. To be sure, these figures do not necessarily imply that all the missing journals have ceased publication; indeed, many are now arriving at the Library.

Deplorable as the mortality or delayed deliveries among European journals has been, inclusion of 75 heretofore unindexed journals in 1944, for example, by the *Quarterly Cumulative Index Medicus,* seems a sign of good health, especially in view of the fact that 27 of them were, believe it or not, new periodicals.

The earliest journal of the Western Continent appeared in Mexico City in 1773.

The *Medical Repository,* published in New York, appeared in 1797 and disappeared in 1824.

A number of journals appeared in the United States during the nineteenth century, notable among them being the *New England Journal of Medicine and Surgery* (1812), which became the *Boston Medical and Surgical Journal* in 1828 and is now the *New England Journal of Medicine.* The *Philadelphia Journal of the Medical and Physical Sciences,* now the *American Journal of the Medical Sciences,* was founded in 1820. The *American Journal of Obstetrics* appeared in 1868 (now titled the *American Journal of Obstetrics and Gynecology*). The *Medical News* (Philadelphia) was founded in 1843; the *New York Medical Journal* (New York) in 1865; the *Medical Record* (New York) in 1866; the *Medical Times* (New York) in 1872. The *Annals of Surgery* dates from 1885.

Let us go back to the *Medical Repository,* the first of our indigenous publications. This journal carried some notable contributions, among them John Conrad Otto's paper on hemophilia, which was the first description of the condition, and John Stearns' contribution introducing ergot to the profession.

David Hosack, after whom is named the great hall of the New York Academy of Medicine, edited a rival journal of the *Medical Repository,* namely, the *American Medical and Philosophical Register* (1810-14). They battled over the contagiousness or non-contagiousness of yellow fever, the great scourge of the day.

In 1817 the great paper of Ephraim McDowell, Father of Ovariotomy, on Three Cases of Extirpation of Diseased Ovaria, appeared in the *Eclectic Repertory and Analytical Review* (Philadelphia, 1811-21).

The *Medical and Surgical Register* (New York, 1818-20), edited by the famous Valentine Mott, reported New York Hospital cases; it published Mott's paper on ligation of the innominate artery.

Immortal among American journals, despite its short life (1842-3), is the *New England Quarterly Journal of Medicine,* which published Oliver Wendell Holmes' paper On the Contagiousness of Puerperal Fever (1843). This short-lived journal is not to be confused with the earlier *New England Journal of Medicine and Surgery* (itself a quarterly, but not so called), which still lives, as we have already pointed out, as the *New England Journal of Medicine.*

French journals other than those cited: There was an early journal devoted to science in France, the *Journal des Sçavans,* founded in 1665, which published some medical contributions. It was created by the same Abbé de la Roque who founded the *Journal de Médicine* in 1681, already mentioned. Some authorities think that the Abbé should perhaps be rated above de

Blegny as the real founder of medical journalism.

Still existing French journals are the *Gazette de Hôpitaux civils et militaires* (1828); *Annales d'hygiène publique, et de médicine légale* (1828); the *Bulletin de l'Académie de médecine* (1836); *Le progrès médical* (1873); *Paris médical* (1875); and *La presse médicale* (1880).

German journals: The two earliest German journals appeared in 1717, *Sammlung von Natur und Medicin* and *Acta medicorum Berolinensium.* These were followed during the eighteenth century by a number of short-lived journals. The nineteenth century creations which still exist are *Wiener medizinische Wochenschrift* (1851), *Zeitschrift für Anatomie und Entwickelungsgeschichte* (1834), *Munchener medizinische Wochenschrift* (1854), *Archiv für pathologische Anatomie und Physiologie und für klinische Medizin* (1847), *Archiv für klinische Chirurgie* (1861), *Berliner klinische Wochenschrift* (1864), *Archiv für gesamte Physiologie* (1868), and *Deutsche medizinische Wochenschrift* (1875).

Spanish journals: The first Spanish medical journal appeared in Madrid in 1734—*Efemérides barométrico-médicas matritenses.*

The current medical press of South America, in Spanish and Portuguese, is represented in our *Quarterly Cumulative Index Medicus* by many periodicals.

Italian journals: Italy's first medical journal was the *Giornale di Medicina,* which appeared in Venice in 1763.

Dutch journals: Collecteana medico-physica oft Hollands Jaar Register was published at Amsterdam in 1680. Note that this followed de Blegny's journal, the first of all, by only one year.

Russian journals: Russia's début in this field occurred at St. Petersburg in 1792, with *Sankt Petersburgskove Vrachevnia Vaidomosti.*

Note—Something unique in the way of a medical journal was recently received from Paris by the Army Medical Library—the first one to be published entirely on microfilm. It is titled *Pathologie: journal des pathologists de langue française . . .* publiant les bulletins de la Société Anatomique de Paris. v. 1, no. 1, June 1946. The Army Medical Library *News* (October, 1946) reports that the journal is photographed by a special camera from the original text in bands, each of which contain ten pages of text, about sixty pages in all, and that the issue is mailed in a small narrow envelope. The Faculté de Médecine of Paris directs its production. The *News* points out the advantages of issuing a publication in this way as savings in paper, printing, and distribution costs, as well as the possibility of reproducing numerous illustrations without the use of plates.

So France now adds to the distinction of having produced the first of all medical journals by the publication in 1946 of a unique modern one.

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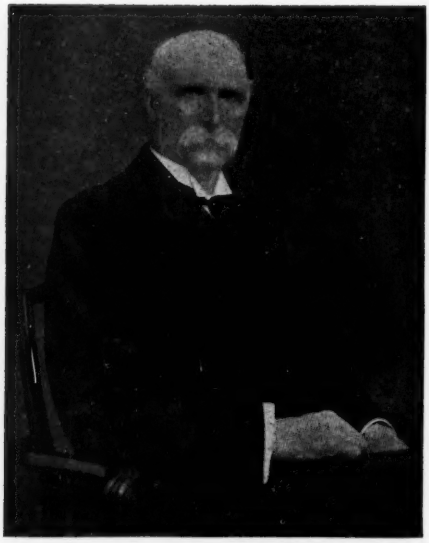
A. C. J.

PSYCHIATRIC PERSONNEL PLACEMENT SERVICE

The activities of the Psychiatric Personnel Placement Service, jointly operated for the past year as an emergency placement program by the American Psychiatric Association and The National Committee for Mental Hygiene, have been taken over by The National Committee for Mental Hygiene, 1790 Broadway, New York 19, New York. Applications from physicians seeking placement in positions or in training in the field of psychiatry are still invited.

Special Article

The Evolution of Inguinal Hernia Surgery III*



We will interpolate here just a mention of the interesting method—notably that of Lawson Tait—by means of which hernia has sometimes been cured; we mean by median abdominal section. Tait proposed this approach in 1883 as a routine for all cases of inguinal hernia. He advocated it strongly in 1891, at the annual meeting of the British Medical Association.

It goes back to T. Annandale. He advocated it in the *Edinburgh Medical Journal* in 1876. He reported a strangulated hernia operated upon by median laparotomy. We presume that Tait got the idea from Annandale, an Edinburgh colleague.

The present-day utilization of the principles and technics involved in the intra-abdominal route—indications and limitations—is ably discussed in Alfred H. Iason's *Hernia* (Blakiston, 1941).

Macewen (1886) plugged the internal ring on its abdominal aspect with the rolled up sac. He first freed the sac to a point about one inch beyond the internal ring, then folded it into a pad, and finally sutured it into the ring. The sutures were brought through the muscles above the ring, then through the skin, where they were tied. Like Marcy, he employed disinfected and absorbable sutures and ligatures.

A.C.J.

* Part III of a series.

Note.—In our article on Henry O. Marcy in the January issue we failed to credit the Army Medical Library for his portarit. Our apologies are due for this omission. ED.

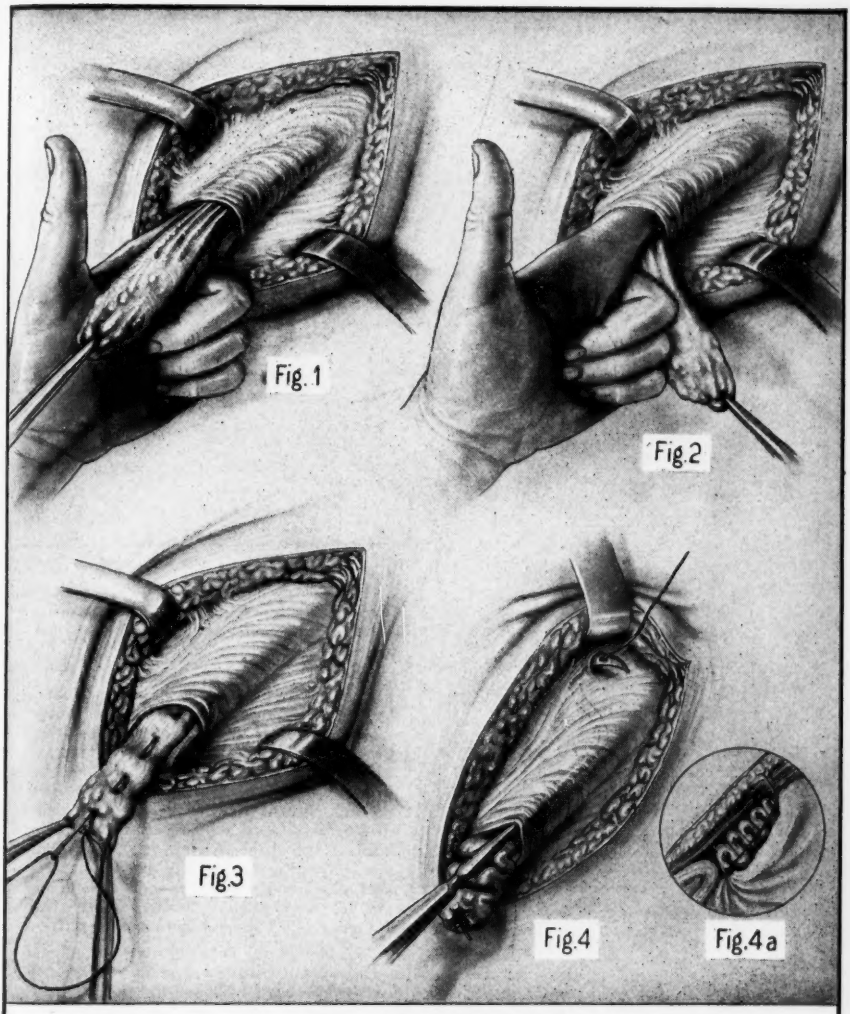


Figure 1. Sac pulled down with tension while index finger is introduced into the inguinal canal to separate the sac from the cord and parietes of the canal.

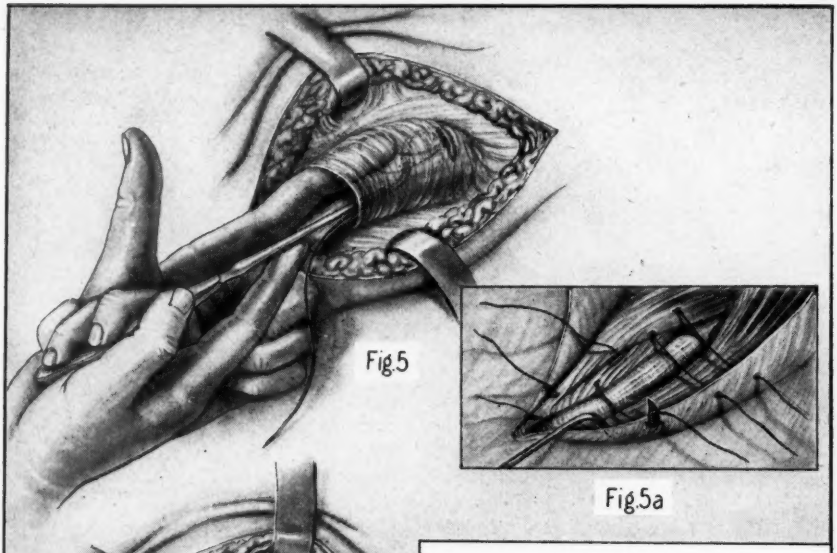
Figure 2. Finger separating the peritoneum from the abdominal aspects of the circumference of internal ring.

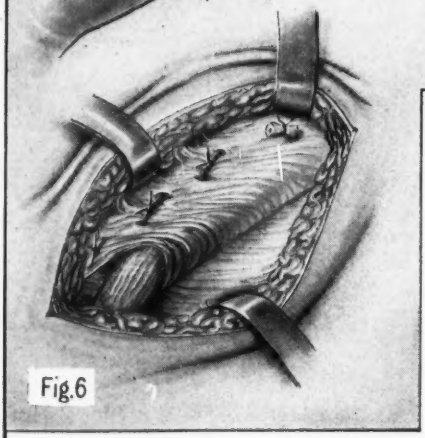
Figure 3. A thread is secured firmly to distal end of sac and then passed in a proximal direction several times through the sac.

Figure 4. The free end of thread on a hernial needle traverses the canal and penetrates the anterior abdominal muscles about an inch above the internal ring.

Figure 4a. The needle is removed and when traction is made on the thread

(—See following page)





the sac is drawn into a series of folds. (Distal extremity is directed furthest backward and upward.)

Figure 5. The inguinal canal is closed by the threaded hernia needle penetrating the conjoint tendon in two places, guided by the index finger. First from without inward near the lower border of the conjoint tendon; second, from within outward as high as possible on the inner aspects of the canal. One single thread is then drawn from the needle by the index finger, and the needle is removed. The same stitch is repeated lower down the canal, if desirable. The pillars of the external ring are likewise brought together.

Figure 5a. (The m. obliqus externus abdominis is cut and opened up to expose the interior of the canal and internal ring for the purpose of showing the position of the stitches.) The other hernia needle, threaded with that portion of the thread which comes from the lower border of the conjoint tendon, is introduced from within outward through Poupart's ligament and the aponeurotic structures of the transversalis, internal, and external oblique muscles at a point on a level with the lower stitch. The same is done with the thread from the upper border of the conjoint tendon.

Figure 6. After the cord is examined to avoid compression, the sutures are drawn tight and tied. The free end of the stitch penetrating the anterior abdominal muscles and holding the folded sac is secured to a minute portion of decalcified drainage tube placed on the surface of the muscle.

Search and Research

Wallace Marshall, M.D., Research Editor

Mobile, Alabama

VI.

The General Practitioner

It is the opinion of your editor that many general practitioners are fully equipped to engage in serious medical and surgical research. The physician in general practice sees life at its beginning and at its end. His lot is to treat almost every phase of disease outside the confines of specialization which may certainly stress some aspects of medical practice to the detriment of other phases.

Equipped with this wide knowledge, backed by a sound foundation in the basic sciences and a wealth of clinical experience, he is bound to develop individual ideas and theories which may become facts to him in the course of his daily work. It is this individual experience from his own investigations which may be of distinct value to his medical colleagues. He should strive to report his own observations after he has collected sufficient data, of an unbiased and controlled nature. Although his medical practice demands a great deal of his attention, and his time is thus limited, he should consider this his duty to his profession and attempt to repay the countless other physicians and surgeons who have contributed so much knowledge to the cause of medical science.

It has amused your editor many times to think what would happen if a professor of surgery were called upon extemporaneously to remove a "fibroid" on a kitchen table in a farmhouse. We take it for granted, of course, that such a case should preferably go to surgery in a hospital. However, many rural communities do not boast of such a luxury as a hospital, and many people get sick in spite of this handicap and must submit to major surgery. I, for one, have watched some perfectly astounding surgery under such unfavorable conditions. Although this is not accomplished with myriads of needles, assistants, green tiled walls, and an army of surgical nurses, the results have eloquently spoken for themselves. I have yet to read a surgical textbook which explains just how to perform such major emergency surgery as these many general practitioners have done and are doing daily. I cannot understand why some enterprising publisher has not followed this idea.*

These men may have much to impart to our more learned colleagues in the various medical centers. It takes clever technique and iron nerves to perform major surgery when the husband of the patient is pouring the ether. Most of these country surgeons would greatly prefer to work in better surroundings with adequate help, but they do marvelously well with what they have available. Bent eating forks can make serviceable retractors in case of dire necessity.

We feel that these men should at least record just how they perform such surgical miracles. We do not advocate surgery with such primitive means if better facilities are available, but we do contend emphatically that any surgeon who can perform major surgery under such conditions certainly does have surgical finesse and ability.

There are many rural practitioners who have found ways and means of aspirating chests with materials which they have discovered near the bedside. Their results speak for themselves. Such enterprising, intelligent, and original solutions to these clinical problems should be recorded for all the medical profession to witness. For, if this is not research, then we are much mistaken.

The general practitioner can give his colleagues in the various specialties much upon which to ponder seriously. The general practitioner sees and treats his patient as a whole, a living human being. The problem

*Morse and Colcord's *Emergencies of a General Practice* is still a useful book. Ed.

is not that of a heart, an eye, or other detached viscera or tissues. He treats the body and "mind" as a whole. Obviously, his approach will follow a similar integrated course, devoid of artificially manufactured parts. He may have much to give to the art and practice of medicine if he will but take the necessary time to record his many observations and experiences.

Role of KI in Acute Rheumatic Fever

Here is a good suggestion for clinical research which was sent to us by B. L. Knight, M.D. of Cedar Rapids, Iowa. Dr. Knight treated two cases of acute rheumatic fever with endocarditis with salicylates, sulfathiazole and penicillin with poor results. He found reference to potassium iodide in such cases in an old textbook. He administered this drug in large doses and followed his therapy with penicillin. His cases have shown no recurrence since that time.

Dr. Knight raises the interesting question of the action of potassium iodide on the fibrin which surrounds the nodules of the endocarditic heart. He wonders if the drug's action in such circumstances is similar to its effect on the gummas of syphilis. If this is true, he makes the logical suggestion that potassium iodide may be employed in such cases before penicillin, streptomycin or the sulfa drugs are used.

Perhaps some clinician, with access to a number of cases with acute rheumatic fever, will follow this reasonable suggestion tendered by Dr. Knight. Or better still, some investigators may have already accomplished this routine. If any of our readers happen to possess data on this matter, we would appreciate it if they would forward their findings to this column.

SUITE 416, VAN ANTWERP BUILDING

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Vitamins in the Practice of Surgery

(Development and Application)

I

There are two methods used by the living cell to set free energy from the nutrient molecule—fermentation and oxidation. The former, transforming the molecule into forms poorer in energy, provides the energy-need of primitive life, and is the older. In this process of conversion we meet with lactic acid, pyruvic acid, dehydration and hydration. More complex and pretentious forms of life have become possible by oxidation. The modern theory of oxidation rests upon that of oxygen activation (Warburg) or upon hydrogen activation (Wieland). The Warburg theory of respiration claimed that the oxygen before entering into reaction with the nutrient molecule is activated by a special agent, the respiratory enzyme. The Wieland theory maintained that also the nutrient is activated by special agents before entering into reaction. This activation means that by the effect of specific enzyme systems, the dehydrogenases, two hydrogen atoms in the molecule are so loosed that they are easily transferred when a respective hydrogen-acceptor (a substance capable of taking up these hydrogen atoms) is present. The activated oxygen is but a hydrogen acceptor. It does not oxidize the nutrient immediately. Only the hydrogen given off by the nutrient molecule is oxidized. (György.)

Thus our cells have only one fuel, hydrogen. The nutrients are in reality only carriers of hydrogen. The cytochrome of Keilin, the intracellular hematin, is interpolated between the oxygen and hydrogen activation. Only the cytochrome is immediately oxidized by the activated oxygen. The hydrogen split off from the nutrient reduces the oxidized cytochrome. The oxidation and reduction of the cytochrome, however, consists only in a shift of valency of the iron bound up in the molecule, which changing from ferric to ferrous takes on or gives off one electron. This loading change of the iron molecule presents the narrow bridge along which the reaction

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Being some notes made by the late H. A. H. Bouman, M.D., F.A.C.S., of Minneapolis, Minnesota.

between oxygen and nutrient is enacted. Thus: Oxygen-ferment-cytochrome-nutrient-dehydration-nourishment. In muscle tissue György discovered another system of oxidation. Fumaric acid, in small quantities ever present, is activated by a ferment, so that, by giving up two hydrogen atoms, it is oxidized to oxalacetic acid. To dehydrate fumaric acid to the oxalacetate is the function of oxygen in connection with respiratory ferment and cytochrome. This oxalacetate is the acceptor of the hydrogen given off by the nutrient molecule. When the oxalacetic acid has recovered the hydrogen, it is again reduced to fumaric acid. The substance in the warm-blooded muscle which carries the hydrogen to the oxalacetate is a triosephosphoric acid. Essentially the two processes of fermentation and oxidation are identical. The hexose $C_6H_{12}O_6$ is split in 2 trioses $C_3H_6O_3$; the latter, losing by dehydration 2 atoms of hydrogen, is dehydrated to $C_3H_4O_3$ = pyruvic acid, the only difference being that this hydrogen is transferred to a substance which itself is a product of fermentation, while with oxidation it is loaded on a foreign substance from outside of the carbohydrate cycle. Thus to create calories, to produce energy, carbon dioxide and water, the metabolic process depends upon the synergy of two systems of energy, the one of the cell and the other of the nutrient molecule.

While in the animal iron is serving as carrier, it is magnesium in the plant. Magnesium greatly assists the synthesis from CO_2H_2O into formaldehyde (CH_2O) and thus to higher carbohydrates (Schwyzer). In the great world of plant life powerful and widely spread systems of oxidation are recognized; analogies in animal life are anticipated but not yet known. (György.) Oxidation and fermentation as energy-producing processes are most closely bound up with all vital phenomena. They will not only provide a deeper insight into life, but surely bring to light many interesting and valuable new substances. Loewi demonstrated the chemical or humoral transmission of stimuli of nerve fibres to their organs of effect. The acetylcholine action of the parasympathetic was rapidly, almost instantaneously, stopped by an enzyme, esterase. Dale showed that the adrenalin of the sympathetic was slowly oxidized by inhibiting agents (catechins ?), to respond to physiological necessity. Correspondingly nerve fibres have been designated as cholinergic or adrenergic. In the oxidation-reduction processes the flavins (which are identical with B_2) are considered to play an important role as intermediary hydrogen-acceptors and donors. In connection with oxidation processes György and collaborators discovered a substance very effective in lesions of the capillaries, which they named vitamin P.

A slight attempt has been made to understand a little of the factors entering into sensitive reactiveness and delicate response (Schwyzer). The practical surgeon cannot afford to fall out of step. When biochemistry, much neglected in our training, produces significant facts, the surgeon is duty bound to strive and labor that he may be alert to apply them.

Hormones (stimulators), harmozones (regulators), colyones or catechins (inhibitors), vitamins, and enzymes are among the mass of catalysts and stimulus substances. The vitamins, with which we are concerned at this time, are also called accessory food factors. Empirically the Egyptians used liver therapy for nyctalopia and there is evidence that Hippocrates was familiar with it. For centuries scurvy was cured or prevented with onions, pine needles, grape leaves, lemons and other fresh vegetables. Rickets has been known for many hundred years. Beriberi has been the dreaded scourge of the Orientals ever since decorticated rice was their main sustenance. A commitment to some prisons in and about Batavia was like a death sentence, for within three months the prisoner was dead as a rule. About 1880 Eijkmann and Vordermann from animal experiments and clinical observation discovered the cause. Scientific medicine became seriously concerned only at the beginning of the century. In 1899 Lunin of the Bunge laboratory in Basel reported that he could keep all his experimental animals alive with raw milk, but when he fed them with the best possible artificial milk, they all died. In 1906 Hopkins

made the statement that there must be very close connections between many human diseases and the yet unknown vital constituents of foodstuffs, and about the same time Funk coined the name vitamine from *vita* + *amine,* and in his book appearing in 1912 he gave the essential facts of the avitaminoses known at that time as beriberi, scurvy and rickets. In 1909 laborious experiments gave indications of the fat-soluble vitamins. The literature abounds with detail of the history of vitaminology, which the student may find most interesting.

Stepp defined vitamins as being organic compounds the body must be continuously supplied with in minutest quantities, their purpose being to maintain the cellular substance and guarantee normal function of the organs. Such substances may be designated as vitamins only when under proper conditions they are already effective in a quantity the minuteness of which precludes their turning into calories or being used as immediate building material of the cell substance.

There is evidence of a limited synthesis of the vitamin within the body. In man the synthesizing power has been largely lost. Generally speaking the human body receives vitamins from plant life as provitamins, converting these into vitamins proper either by metabolic processes, usually in the liver, or by radiant energy in the skin. Since the process is about the same in the animal, such a source of food transfers these substances directly as completed vitamin. The effect of these vital substances is without doubt not only of extraordinary importance but comprehensive. The vitamins participate in the construction of all cells and tissues, and in regeneration and growth. There is no life without these accessory food factors. Before the German surgical congress of 1936 Schneider made the statement that the vitamin requirement and that of the hormones appears to be a fundamental law of every living cell.

The hormones, vitamins and enzymes are closely connected organic compounds and cannot be sharply differentiated. Hormones are formed by specific cells of endocrine glands. Vitamin A is formed in the liver and D in the skin from their precursors. The yellow respiratory enzyme is a derivative of lactoflavin (B_2). The plant growth hormones, auxins, are between hormones and vitamins and found in carcinomatous tissue. All of these are vitally active in fermentation and oxidation, the processes by which we live and grow. The thoughtful surgeon is preeminently concerned with the resistance of his patient and that depends to a great extent upon the manner in which he was nourished. It may be of interest, therefore, to quote a few excerpts from the report of Dr. Bircher-Benner of the Swiss dietary commission. The bread question is only a small but an important part of the question of folk alimentation. The solution of the former is closely coupled with the latter. Vital laws disclosed by the modern science of dietetics are pointing the way. The nutrition of the civilized nations frequently stands opposed to these vital laws. It is like (McCollum) an experiment on the scale of nations with a diet on which as yet no people in history have attempted to live, and of which the baneful effects have come to be visible.

The sequence of this malnutrition have grown to be alarming. Some of the most obvious are the diseases of the teeth: dental caries, paradontopathy, distortion of the mandibles. However, they are not simply local disorders but reliable signs of morbidity of the general system. All those who know have come unanimously to the conclusion that despite declining mortality, morbidity is rising. The drafts during the years of war forcefully have focused attention upon the lamentable state in which the health of large proportions of the population of our civilized governments was presented. Those entrusted with the matter gradually recognized that faulty nutrition was responsible to a great extent for the physical disability.

With a painful, bitter feeling we medical men must see that for a long time we did not recognize the distressing develop-

ment of folk nutrition. Indeed, we helped it along, deceived by immature teachings. We ordered for the sick the products of high milling, as white bread, rolls and zwieback, recommending them to the people as being easier of digestion. We advised the taking of sugar in excess as a source of energy. Moreover, for the gastro-intestinal patients we prescribed restricted diets resulting perforce in avitaminoses, and then we prohibited vegetables which might be eaten raw, and cast suspicion upon them at every opportunity. The etiology of alimentary disease and the efftcts of the nutriment respecting foodstuff upon the human organism, we have not known too well.

Today we realize that the investigation of nutritional effects is the first duty of medical science, and that without this recognition neither prophylactic nor therapeutic measures can be taken, for nutrition dominates life and health.

We permitted the destruction or removal of unknown food factors from human foodstuffs. We determined the energy requirement of the organism and the energy value of the food only by the caloric value, never taking account of the fact that the nutrient energy possesses a wonderful organization, the substantial qualities of which may only be conceived with the aid of the second principle of the science of energetics. Moreover, we did not reckon with the fact that the foodstuffs connected with the energy organization receive a correlative organization of the nutritional factors contained in them, which renders them units of wholes or integrals, and finally we did not know that the effects of food are fully and entirely determined by these two energy systems and their relation to the human organism, and not by the caloric value. The ntritional equilibrium dominating everything in thep rocess of nutrition was an almost unknown quantity to us.

Now we stand beholding such knowledge and begin to see the immeasurable mischief in public health done by malnutrition and still continuing to do so.

The steps in the early order of discovery have been about as follows:

I. Fat-soluble vitamins:
   - A. antixerophthalmic vitamin.
   - D. antirachitic vitamin.
   - E. antisterility vitamin.
   - K. antihemorrhagic vitamin (Dam & Schoenheyder).

II. Water-soluble vitamins:
   - B_1 antineuritic vitamin.
   - B_2 consisting of:
     1. B_2 growth vitamin, thermostable (lactoflavine).
     2. PP-factor: pellagra-protective in man (anti-blacktongue factor).
     3. B_6 pellagra-protective in rats (antiacrodynia factor).
     4. anti-anemia vitamin (extrinsic factor of Castle) (hemogen of Reiman).
     5. rat-sprue and goat-milk anemia protective factor.
     6. chicken dermatitis-preventive factor.
     7. keratitis-preventive factor.
   - B_3 Thermolabile growth-factor. Indispensable for the pigeon.
   - B_4 Thermolabile growth-factor. Indispensable for the chicken.
   - B_5 Thermostable growth-factor. Indispensable for the pigeon.
   - B_7 Enteral vitamin (Centanni-Montevecchi).
   - C. Antiscorbutic vitamin. Ascorbic acid.
   - H. Biotin.
   - J. Alleged antipneumonic vitamin.
   - L. Lactation-factor (Nakahara).
   - P. Permeability vitamin. Citrin. Apparently indispensable for man.
   - F. So-called by Evans and Miss Oncken—is a mixture of vital, not synthesizable in the body, highly unsaturated fatty acids, whose lack in the diets of rats causes skin necroses, sterility and uremia.

(To be continued)

CONTEMPORARY PROGRESS

PEDIATRICS

Juvenile Rheumatoid Arthritis

J. A. COSS, JR. and R. H. BOOTS (*Journal of Pediatrics,* 29:143, Aug. 1946) report a study of 56 cases of rheumatoid arthritis in children, in which the onset of the disease was at 12 years of age or younger, at 14 months in the youngest patient; 44 of the patients were females and 12 males; the sex incidence is approximately the same as that of rheumatoid arthritis in adults. There was a history of respiratory tract infection, including recurrent sore throat, sinusitis or otitis, preceding or associated with the onset of arthritis in 32 cases, or 57 per cent. Hepatomegaly was present in 13 cases, splenomegaly in 17 cases, and generalized glandular involvement of varying degrees in 35 cases. All of these patients complained of pain at some time in the course of the disease. In 31 cases (53 per cent) there was no cardiac abnormality demonstrated by physical examination or electrocardiogram. A systolic murmur of varying intensity was demonstrated in 13 cases, and tachycardia in 13 cases; in 7 cases the electrocardiogram showed "evidence of myocardial damage" or "carditis"; in 6 of these cases the electrocardiogram subsequently became normal. Blood studies showed a moderate anemia in about 80 per cent of cases; the leukocyte counts showed more striking deviation from the normal; the count was above 15,000 in 37 per cent of the cases and above 25,000 in 17 per cent. Most of the patients who showed marked improvement under treatment never developed a high leukocytosis. Of 28 patients in whom bacteriological studies were made, 17 showed hemolytic streptococci in their throats. In 24 cases in which the antistreptolysin titer was determined, the median value was 250, which is definitely above normal. Treatment employed consisted in rest, transfusion, splints, physiotherapy and salicylates; gold therapy was employed in 22 cases in addition to other methods of treatment; focal infections were treated and vaccines given in a few cases. The variation in the gold dosage and the small number of cases treated make it impossible to evaluate the results of gold therapy; only 2 patients showed severe reactions, 10 mild reactions. Roentgenologically, four criteria characteristic of juvenile arthritis are recognized: decalcification, bone destruction, joint space narrowing and soft tissue changes. In 47 cases in this series in which roentgenological studies were made, two of these criteria were present in 20 cases, three in 9 cases and all four in 7 cases. In addition, fusion of cervical vertebrae following arthritis was observed in 6 cases; and a forward luxation of one cervical vertebra in 1 case. Brachydactylia; shortening of fingers and toes that had been the site of early involvement of arthritis, was observed in 6 cases; and brachygnathia in 14 cases. There were 2 deaths in this series, both in the group not treated with gold; in one of these cases there was a terminal amyloidosis.

COMMENT

The relation between rheumatoid arthritis and rheumatic fever has yet to be determined. Rheumatic fever after several attacks may result in arthritis with a similar pathology in the joints to that of rheumatoid arthritis but this is unusual. Rheumaoid arthritis in childhood is for the most part a clinical entity. That the invading organism in both diseases has the throat as the portal of entry there is little doubt. The nature of the organism in unknown but like most diseases in which there is no demonstrable bacterium, the future holds out the challenge to prove that both rheumatic fever and rheumatoid arthritis belong to the group of virus diseases. Whereas at the present moment there are many who cling to the idea that rheumatic fever is due to an allergy to the streptococcus hemolyticus, this has not been proven and there are those who think, and probably correctly, that the streptococcus infections which precede both diseases merely break down the defensive barriers in the throat, thereby allowing the infecting virus to more readily enter the blood stream. The

most interesting difference in the two diseases lies in the fact that we seldom meet with a true endocarditis in the cases of rheumatoid arthritis. *H.E.U.*

Electrocardiograms in Rheumatic Heart Disease in Children

H. C. CROSSFIELD *(American Journal of Medicine,* 1:36, July 1946) reports electrocardiographic studies of 97 cases of rheumatic heart disease in children under 15 years of age. Complete clinical data were available in all these cases, including fluoroscopic and roentgenographic reports. In 86 per cent of the cases the S and Q waves were of the cross type pattern; the incidence is 3 times greater than that in children with possible or potential rheumatic heart disease or congenital heart disease. Lengthening of the P-R interval was found in 33 of the 97 cases, or 34 per cent, in at least one electrocardiogram; it was frequently found during exacerbations of the disease. The T waves in lead 1 were large in 31 cases, the mapority of which were mild or early cases. But diphasic or inverted T_1 or T_2 waves were found in only 6 cases, 5 of which were in an advanced stage. The S-T or R-T segment was displaced in 23 cases; it was elevated in 8 cases, 6 of which were mild; and depressed in 15 cases, 11 of which were in an advanced stage. In this series of cases the proportion of mitral to aortic lesions was about 4:1; combined lesions were present in about 10 per cent. In cases of mitral lesions the electrocardiogram showed the S_1 Q_3 or S_1 M_3 patterns; in aortic lesions the Q_1 S_3 or Q_1 M_3 or W_3 pattern; in aortic lesions the Q_1 S_3 or Q_1 M_3 or W_3 pattern. In cases of combined mitral and aortic lesions, some variations in the Q and S waves were noted in all leads; Q and S waves indicated whether there was right or left-sided heart strain. Electrocardiograms, with special attention to the Q and S waves, are of definite aid in the early diagnosis of rheumatic heart disease, not only in cases with typical rheumatic fever, but also in the atypical cases.

COMMENT

The electrocardiograph provides an excellent means by which we may study the heart in rheumatic fever. The clinical signs still remain the most important means of making a diagnosis. It must not be forgotten that Duckett Jones' assertion that we must have two of the major symptoms, arthritis, endocarditis, chorea, rheumatic nodules and fever, together with minor symptoms, anemia, etc., to diagnose rheumatic fever, still holds good. With the present amount of publicity rightly being given to the disease many cases are diagnosed with insufficient evidence. The ECG gives valuable information in doubtful cases. H.E.U.

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Penicillin and Sulfonamides in the Treatment of Infections in Infancy

E. C. ROSS COUPER *(Archives of Disease in Childhood,* 21:88, June 1946) reports the use of penicillin alone and of penicillin combined with sulfonamide in the treatment of infections in young infants, including a number of premature infants. In a previous trial of penicillin alone in a similar group of cases during the months of September, October and

November, results were encouraging but in this series treated with penicillin alone in the months of January, February and March, 8 of 12 infants died; and the death rate in the premature infants in this group was 72.7 per cent. This would indicate that in the early months of the year infections in infants are more virulent. Better results were obtained with a combination of penicillin and sulfonamide. In one group penicillin was combined with sulfathiazole, and in another group with sulfasuxidine. The best results were obtained with penicillin and sulfasuxidine; in this group, the mortality for the entire group (47 infants) was 21.2 per cent (10 deaths); and the mortality for the premature infants was 41.1 per cent (7 deaths in 17 cases). The value of sulfasuxidine is apparently due to the fact that it is active against the coliform organisms, which are particularly common in infections in young infants. It has also been found that the coliform organisms inactivate penicillin, and therefore the combination of penicillin with a drug active against these organisms would be advantageous. For administration to young infants penicillin was made up in a solution of 25,000 units in 8 cc. of saline, and 1 cc. (or in some cases 2 cc.) given every 3 hours. The initial dose of the sulfonamide was 0.3 to 0.75 gm., then 0.25 gm. every 3 hours, coinciding with the penicillin injections.

COMMENT

In the severe infections of childhood treatment with penicillin and the sulfonamides is most efficacious. In the simple infections of childhood the sulfonamides suffice, but as is the trend in most hospitals where the interne initiates treatment, penicillin is given priority. The newest remedy appeals to the young in medicine. ***H.E.U.***

Chemotherapy in Infections of the Respiratory Tract Associated with Cystic Fibrosis of the Pancreas

P. E. A. DI SANT AGNESE and D. H. ANDERSEN (*American Journal of Diseases of Children,* 72:17, July 1946) report the use of sulfonamides and penicillin in the treatment of respiratory infections associated with congenital pancreatic deficiency (celiac syndrome). Previous studies by one of the authors (D. H. A.) have shown that appropriate dietary therapy can maintain these children in good condition, and that if this therapy is begun prior to the onset of the typical chronic cough, infections of the respiratory tract do not develop. In the untreated cases, the cough may begin in early infancy or later, after a period of repeated prolonged colds; the cough shows exacerbations with recurring respiratory infections. Cyanosis and respiratory distress develop, with an ultimately fatal termination. Postmortem examination of such fatal cases shows that the characteristic lesion is a chronic inflammation and fibrosis of the small and middle-sized bronchi, and that in the later stages, there is a superimposed acute suppurative bronchitis due to hemolytic *Staphylococcus aureus.* In cases treated with drugs of the sulfonamide group, it was found that this treatment was ineffective after the onset of cyanosis, but was of value in the treatment and prevention of intercurrent infections in cases with chronic cough and no cyanosis; this resulted in reduction in the severity of the cough, and in its ultimate disappearance if adequate dietary therapy was carried out at the same time. Sulfadiazine has been employed in small daily doses as a prophylactic against respiratory tract infections during the winter in patients whose cough has been partially or completely relieved by previous sulfonamide or penicillin therapy. Penicillin has been found effective in the treatment of respiratory tract infection even after cyanosis and respiratory distress have developed. It has been found that penicillin is best given by inhalation with the use of penicillin aerosol, either alone or combined with intramuscular injection of penicillin. The parenteral administration is indicated chiefly in cases in which there is bacteria or when involvement of the parenchyma of the lung is suspected. By the use of dietary therapy, the use of sulfadiazine during the stage of chronic cough, and penicillin if symptoms of suppurative bronchitis develop, the mortality of fibrocystic disease of the pancreas in children is being reduced, and an increasing number of these patients are being maintained in a state of good health and normal activity.

COMMENT

Until the use of penicillin and the sulfonamides was added to our medical armamentarium death from pancreatic fibrosis resulted from the complicating staphylococcus infections of the respiratory tract. Dietetic treatment had seldom sufficed to save the lives of these patients. Now in the use of penicillin and the sulfonomides to combat the respiratory infections there is a greater chance of covery through dietetic measures. Pancreatic fibrosis is not a common disease and must not be confused with celiac disease. ***H.E.U.***

UROLOGY

Treatment of Cystine Calculi

C. A. CAWKER (*Canadian Medical Association Journal,* 55:19, July 1946) has made routine cystine tests of the urine only in patients with urolithiasis, or those giving a history of renal or ureteral colic. Routine hemisection and chemical analysis of any stones removed surgically or passed in the urine are also desirable. It has been found that after the removal of large cystine stones that are causing obstruction, further calculus formation can be prevented and small cystine calculi dissolved if the patient takes a high alkaline ash, low protein diet for one week of each month and alkali by mouth to render the urine alkaline (pH about 8). The alkali employed in this regimen is either citrocarbonate or citrosoda, as either of these preparations is palatable and causes no gastro-intestinal symptoms. Eight illustrative cases are reported.

COMMENT

The interesting element in this paper is the value of alkalies by mouth. One week in each month and three off might be the wrong distribution of the alkali in an active case. I should think 2 days (Saturdays and Sundays) out of each week would not be a burden to the patient and would keep the alkali always on the job. ***V.C.P.***

Chancroid Disease and Its Treatment

F. C. COMBES (*New York State Journal of Medicine,* 46:1700, Aug. 1, 1946) describes chancroid, or soft chancre, as an acute, localized genitoinfectious ulceration, often accompanied by a painful regional adenitis. All genital ulcers must be examined by the darkfield method to exclude syphilis. If this is negative and serological tests for syphilis are also negative, smears from the ulcer should be examined for *H. ducreyi*; if this is negative or if the presence of contaminants and large quantities of pus make the examination unsatisfactory, some of the pus may be rubbed into an abraded area on the external aspect of the arm. If the genital lesion is chancroid, an inflammatory pustule develops on the sit of the abrasion on the arm, from which the *H. ducreyi* can be isolated without difficulty. Or an intradermal test may be made with a specific vaccine. A study of methods of prophylaxis has shown that the oral administration of sulfathiazole (2 gm.) within five hours after infection and 1 gm. every three hours for three doses is most effective. Of local applications for prophylaxis sulfonamide (15 per cent) and calomel (33 per cent) in an oil-in-water emulsion ointment was 85 per cent effective if applied within six hours after infection; and a 10 per cent aqueous solution of zephiran chloride, and 2 per cent in propylene glycol was 100 per cent effective if applied within one hour. In treatment of chancroid, the patient should be kept at rest in bed. The administration of sulfathiazole by mouth has proved the most effective method of treatment. Studies of the minimal effective dose at Bellevue Hospital have shown that 21 gm. given in five days are effective in simple uncomplicated cases, and 29 gm. given in seven days are required if buboes are present. The initial dose is 2 gm. and then 1 gm. is given every four hours. Very similar results have been obtained with sulfanilamide; and sulfadiazine would probably also give good results. Topical application of a sulfonamide powder is not necessary if a sulfonamide can be given by mouth. But if oral administration is not advisable in any case, sulfanilamide should be used for local application to the lesion, preferably combined with some oxidizing agent

such as sodium perborate or azochloramide. If there is much edema or phimosis wet dressings should be used; zephiran chloride (1:5,000) is excellent for this purpose. Adenitis, if suppurative, may be treated by aspiration to relieve pain and tension, but incision is not indicated. Penicillin has not proved effective in the treatment of chancroid, although some in vitro tests have shown the *H. ducreyi* to be sensitive to penicillin.

COMMENT

I followed this efficient method in my practice. Thorough cocainization. Careful curetting of the surface and trimming of the overhanging edges down to healthy tissue and free application of 10% silver nitrate until the surface is white. Another light curetting and light application followed by wet dressing renewed every 2 to 3 hours. This method almost never failed to change a vicious ulcer into a healthy sore. Bed treatment was necessary only in complicated cases. V.C.P.

Rupture of the Urethra, A New Diagnostic Sign

V. VERMOOTEN (*Journal of Urology,* 56:228, July 1946) describes a method of diagnosis of rupture of the posterior urethra in cases of fractured pelvis or dislocation or subluxation of the symphysis pubis. In such injuries it is often difficult to determine whether the bladder or the posteriar urethra is ruptured. In his experience in a mining district the author found that in crushing injuries involving the pelvis the most common type of urethral injury is a complete rupture of the posterior urethra at the apex of the prostate. To determine whether such an injury is present, rectal examination is made to palpate the prostate; if the apex of the prostate can be located and pushed up and away, this indicates a complete rupture of the urethra. If the apex of the prostate cannot be dislodged, this indicates that the urethra is not completely torn across. Recently this method has been employed in cases of fractured pelvis admitted to the Brooke General Hospital; in 6 of 48 such cases, the urethra was completely torn across just above the urogenital diaphragm, and in 1 of these cases there was also a rupture of the bladder. Two of these patients had been operated on elsewhere, and were admitted to the general hospital some time after injury. In the 4 patients admitted soon after injury, the diagnosis of rupture of the urethra was made before operation by the method described; in 4 other cases in which there was a urethral injury but not a complete rupture, this also was demonstrated before operation. As it is difficult, and often impossible, to place a patient with a fractured pelvis in an exaggerated lithotomy position for doing a primary suture of the ruptured urethra, the author has found it best to apply traction to the prostate, thus approximating the prostatic and membranous portions of the urethra. For this purpose a urethral sound is passed through the urethra to the site of rupture and guided into the prostatic urethra with the finger, introduced through a suprapubic cystotomy incision. When the sound is passed into the bladder, the Hagner or Pilcher bag is threaded on the sound and withdrawn through the urethra; or the Foley bag (balloon catheter) may be used. The best method of maintaining traction is to tie the catheter to a band fastened around the patient's knee just below the patella; the catheter is fastened to the band on the lateral aspect of the knee so that traction is increased if the patient flexes the thigh. Traction should be maintained in this way for two weeks; then the catheter is left in place for at least one week more, and preferably for two weeks. In a relatively large series of cases of rupture of the urethra, in which this method of treatment has been used, there has been no severe urethral stricture; and only occasionally a slight stricture, usually in cases in which traction was not maintained for the full two weeks.

COMMENT

The element of diagnosis in this paper is interesting. Very important is his observation as to stricture. Usually traumatic stricture is slow in developing. It would be instructive to know how frequently and for how long a time after operation he has been able to follow his patients. Miners usually are not intelligent people and would be apt not to observe themselves. V.C.P.

Topical Use of Clotting Agents in Surgery of the Prostate Gland

F. C. HENDRICKSON (*Journal of Urology*, 55:613, June 1946) has previously described the use of a modification of the Foley bag, designated as the Foley-Hendrickson bag, and thrombin as a method of hemostasis in both transurethral and suprapubic prostatectomy. This method has been very effective in procuring hemostasis in 470 transurethral resections of the prostate. In 40 cases of suprapubic prostatectomy, the Foley-Hendrickson bag and thrombin resulted in better hemostatis than the Hagner bag, but it was not perfect. More recently a Hagner bag covered with thin stockingette cotton cloth saturated with thrombin has resulted in prompt and almost complete cessation of bleeding in 48 suprapubic prostatectomies. There was no case of serious secondary hemorrhage when the bag was removed. Less morbidity, as indicated by rise in temperature, occurred in the 48 cases in which thrombin was used, than in cases in which the same operative technique was employed without thrombin.

COMMENT

It is interesting to note the value of a fabric (stockingette) on the Hagner bag. It seems as though clotting is always favored by any fabric to which the clot clings and upon which it grows rapidly and efficiently. V.C.P.

The Use of Alloy Stainless Steel in Closing Urological Wounds

N. B. POWELL (*Journal of Urology*, 56:35, July 1946) reports the use of alloy stainless steel wire in 37 major urological operations, 19 of which were operations on the kidney, 5 operations on the ureter, 7 prostatic operations and 6 bladder operations. The steel wire is used for the closure of the skin, muscle and fascia layers of the wound. Absorbable sutures are used for closure of the renal perenchyma, bladder wall and ureter. The stainless steel wire is kept on a spool to prevent kinking or twisting; and cut into the desired length (for the kidney surgery, 8 in. length). The wire is threaded on a large curved cutting needle; and the sutures are carefully placed to approximate the wound edges with the usual stay suture technique. All sutures are placed before any suture is tied. Drains or tubes are used when indicated as with other types of suture. After a little experience, the stainless steel wire sutures can be placed rapidly. The author has found that the average kidney wound can be closed in eight minutes, using 5 to 8 sutures; 4 to 6 sutures are usually employed for the suprapubic incision in prostate and bladder surgery. Stainless steel wire is resistant to all body fluids, causes minimal tissue reaction, and in the cases reported has given good results.

COMMENT

It is the old question of absorbable vs. nonabsorbable sutures. The variety of material used in nonabsorbable sutures during the past 40 years is not small, a fact which tends to prove that they all have their day of popularity which ends in a sunset of dissatisfaction. I remember the days of silkworm gut, buried. On my service at New York Hospital we treated in one summer seven cases of abscess in the work of one surgeon. V.C.P.

PHYSICAL THERAPY

Physical Therapy in Small Community Hospitals

H. E. CARTER and J. S. COULTER of the Council on Physical Medicine, A.M.A. (*Archives of Physical Therapy*, 27:343, June 1946) emphasize the importance of providing adequate training for physical therapy technicians in view of the increasing use of physical therapy methods and the importance of increasing facilities for such therapy. Most large hospitals have special departments of physical therapy, and small hospitals should also have such special departments. In the small hospital a physician with special training in physical medicine should be in charge of the department. The small hospital should also have a resident physician. If no consulting specialist or resident is available

in a small community hospital' it is better to train one of the local physicians in physical therapy to take charge of the department in the hospital than to have every physician in the community attempt to practice physical therapy in his office. A registered physical therapy technician should be employed in every physical therapy department; such a technician should also have had nurses' training. If, in a small community, the work of the physical therapy department would not occupy the technician's full time, a nurse trained in physical therapy can be employed for part time. The room provided for physical therapy in a small hospital should be at least 16 x 20 feet, and well ventilated. Adequate ventilation is important because of the presence of heat-producing apparatus. Two treatment cubicles should be provided, so that heat or ultraviolet ray therapy may be given to one patient in one of the cubicles while massage or exercise is given to another patient in the other cubicle. Elaborate equipment is not necessary; much of the apparatus necessary can be constructed by a carpenter and an electrician; it should incluode bakers, a paraffin bath and exercise equipment; the addition of a diathermy machine, an ultraviolet mercury arc lamp, and a galvanic-faradic device is desirable. While physical therapy may increase the daily cost of hospital treatment, it may also decrease the total cost per patient, by decreasing the period of convalescence.

Comment

The Surgeon General of the United States Public Health Service, Thomas Parran, Dr. Herman L. Kretschmer, Past President of the American Medical Association, and Dr. Fred Slobe, president of the American Association of Industrial Physicians and Surgeons, all stress the importance of physical medicine in the postwar medical world. Millions of Americans need physical therapy because of crippling diseases, accidents and war wounds and, among the older groups, disabling diseases will require its employment. The public is demanding physical medicine more and more, when ill in the hospital, and realizes that the thoroughly equipped hospital must have a properly manned department.

Physical medicine includes physical therapy, occupational therapy, and rehabilitation. And, where extensively used and employed early, though apparently increasing the daily cost in its own domain, it can decrease the total cost per patient, for it shortens convelescence, makes the patient comfortable, saves on analgesic drugs, empties the beds sooner. It also makes friends for the hospital, since patients feel that something is being done for them instead of their being left to do nothing all day—and have nothing done for them—the universal cry, especially among those who have no means of self-entertainment.

The setup in the large hospital calls for 1) a specialist physician in charge, 2) a resident or an assistant physician and, 3) an experienced chief technician who is a registered physical therapy technician, to oversee and direct other technicians, all having a well rounded education and varied experience in all branches. Nursing experience enhances the value of this setup. Patients are sick, they are seen and treated at the bedside, they require careful handling, there must be no question of care, gentleness and understanding—experience is the chief asset of the properly qualified technician, who must at all times be calm, cool and collected, never hurried, giving patients the feeling that their interests are paramount; there is no haste to be done with them, no feeling of being rushed through and pushed out. Relaxation is half the battle; without it, ultimate recovery is delayed for some time or forever.

The authors stress the following—that the physical therapy technician must be thoroughly trained, since she may sometimes have to take oral instructions, and that skill and service of this kind are possible only if she be well qualified and paid a salary equal to that of the best institutions.

Unfortunately, hospitals which try to economise on the department of physical medicine, especially as to proper personnel, may find themselves with lawsuits that will teach a hard learned lesson. The absence of such suits shows that eternal vigilance is the watchword of that department, its direcor and staff, medical and technical.

Industrial medicine vies with the hospitals in attracting workers in physical medicine by excellent salaries and good working conditions. The hospitals on the other hand take care of their workers when ill and injured, try to make them feel at home, and in various ways make them aware that they are more than just a cog in a wheel. Contented workers will spend their energy, time and strength to do a good job if they know they are appreciated.

According to the past president of the American Hospital Association. Dr. Donald C. Smelzer, cost of proper training for a technician has been a factor in the inadequate number of qualified men and women in the field. With the scholarships now available, this need should soon be met. M.C.L.McG.

Neurosyphilis with a Three Year Observation of the Comparative Therapeutic Effects of Inoculation Malaria and Artificial Fever Therapy

V. E. LASCARA (*Archives of Physical Therapy*, 27:417, July 1946) reports 190 cases of paresis, 102 of which were treated with artificial fever therapy and 88 with therapeutic malaria inoculations. The majority of these patients had intermediate signs and symptoms; only 40 had a severe form of the disease and 25 a mild form. The fever therapy employed consisted of five-hour sessions of fever weekly, the maximum temperature of 104 to 105° being maintained two and a half to three hours. All patients are given nicotinic acid daily throughout the course of twelve weeks' therapy. If the patient is on combined antisyphilitic therapy, bismuth (2 cc.) is given intramuscularly before each fever treatment, and mapharsen (.00 gm.) or tryparsamide (1 to 2 gm.) is given when the fever reaches about 104 degrees. Calcium phosphate is given forty-eight hours before each fever treatment; and 1000 cc. of 5 per cent glucose in saline solution with 1 cc. thiamine hydrochloride are given intravenously just before each fever treatment. After the first hour of fever treatment, the patient is encouraged to drink cool (but not iced) fluids—fruit juices or water. In the last half hour of the fever treatment saline solution (1000 cc.) with calcium gluconate (10 cc.) is given intravenously. If a sedative is needed, codeine is employed. The fever treatment is terminated if any of the following symptoms develop: Loss of consciousness; sudden drop in blood pressure; muscular cramps (not occurring in any of the author's cases because of adequate chloride intake before and during treatment); pulmonary or cerebral edema (both of rare occurrence). Of the 102 patients with paresis treated by fever therapy, 66 had a definite remission and were able to return to a normal social environment and to work; 21 were definitely improved and showed good adaptation to the hospital environment. Thus a remission was obtained in 64 per cent and improvement in an additional 20 per cent in this group. In the group of 88 patients treated by malarial therapy, 30, or 35 per cent, had a remission, and an additional 15 per cent (13 patients) showed definite improvement. On the basis of these results the author considers that artificial fever therapy is definitely superior to malarial therapy in neurosyphilis; he has also found that artificial fever therapy is better tolerated by most patients. Fever therapy is definitely indicated in paresis, taboparesis and optic atrophy; in other forms of neurosyphilis, it is indicated only if chemotherapy fails or there is prolonged sero-resistance.

COMMENT

Thermally induced fever by whatever method of heating, artificially, has shown its superiority over the years, to the periods of 1) chemotherapy and 2) malarial therapy which preceded it. Morbidity and mortality are definitely less, being about 3% in these cases as compared with 22% in malaria therapy, at the end of three months. In general, less than ½ of 1% were the over-all figures of those doing this work in the general run of cases.

Careful preparation in selected cases is the sine qua non of treatment. Artificial fever is dangerous except in the best hands. It must always be given in a hospital with specially trained personnel, with all measures for preventing accidents and overcoming them, at hand. The well trained fever technician is the next greatest asset. Calmness, poise, understanding of patient and method, and awareness of consequences are essential to success and give the patient almost as much confidence as that reposed in the physician—it is part of the psychologic picture. A timid, restless technician makes a jittery patient.

This method takes an enormous amount of time, energy, anxiety about the result, the fear of the patient's poor reaction, and worry, on the part of the physician. It is not understood by the ordinary physician, surgeon and patient who cannot realize the dangers, since they rarely see a case being done, nor will they sit through the hours required and follow the changes. It is the most poorly paid of all measures for healing and the patients are usually the most ungrateful of any kind treated. Including its induction the ordinary 5-6 hour treatment with fever up to 105-106 F., or more, is equivalent to 2 or 3 gallbladder operations in time, tension and fatigue, for it is a twenty-four hour, a five-day worry, or even longer. It is decidedly ten times as

nerve wracking as crymotherapy, yet it has been thought, when considered at all, to be of much less importance. In combination with chemotherapy, physical pyrexia offers greater hope than with either alone. This is best given before the hyperthermy, so the chemical may be as widely disseminated as possible, thus making for greater curative effect.

M.C.L.McG.

Therapeutic Induction of Fever and Leukocytosis Using a Purified Typhoid Pyrogen

G. O. FAVORITE and R. R. MORGAN (*Journal of Laboratory and Clinical Medicine,* 31:672, June 1946) report the use of a purified antigen from cultures of *E. typhosa* grown on a synthetic medium for the production of therapeutic fever and leukocytosis. The effective dosage is established by preliminary testing in each case; when this effective dose is established, a series of febrile reactions of the intensity desired can be induced with single injections increased each time three to fivefold. The usual effective initial dose was 0.001 to 0.002 mg. This antigen, as prepared, has been found to be very stable so that it can be preserved for long periods —up to five years. With adequate dosage, the fever remains at 103° F. or above for two to twelve hours, the duration being regulated by the amount of pyrogen injected and its relation to the dosage used for the previous injections. Not only were satisfactory febrile paroxysms produced by this antigen, but a leukocytosis developed in three to five hours after the injection and persisted for as long as fourteen hours; the total white cell count often reached 20,000 to 30,000 per c. mm.; this leukocytosis was due to an increase in the granulocytes. This leukocytosis is probably a valuable adjunct to the therapeutic effect of the fever. The authors are of the opinion that this antigen is superior to the whole bacterial typhoid-paratyphoid vaccine, for the therapeutic induction of fever, since when once the adequate dosage is determined a single injection produces the desired febrile reaction.

COMMENT

Since hyperthermy by chemotherapy has such widespread use, every safeguard should be taken to prevent severe reactions. The work of these authors is to be commended. From the reports given, it is definitely superior to the usual typhoid injection and, if its stability, purity and ability to give a pronounced leukocytosis continue to be verified, it is most desirable. The ordinary typhoid injections do not give such prolonged fever, as to temperature and time, nor leukocytosis. M.C.L.McG.

Uses of Cold in Medicine and Surgery

F. M. ALLEN (*Clinics,* 4:164, April 1946) notes that cold applications have been used "from time immemorial" for the relief of pain and congestion. Some of the modern uses of cold in medicine and surgery are discussed. One of the most important surgical uses is that of refrigeration anesthesia with tourniquet for operations on the extremities. While ice may be used for this type of refrigeration, the author considers that the best apparatus is an electrical refrigerating apparatus. For postoperative cooling of the wound, which is also generally employed, ice bags are used. Refrigeration has also been employed for the treatment of gangrene with infection and toxemia, by which patients are kept free from pain and the progress of gangrene halted until operation can be done without undue risk. This treatment, however, cannot cure gangrene, but is to be regarded as a palliative measure preparing the patient for surgery. Where the use of a tourniquet is necessary for the prevention of hemorrhage, cooling of the parts from which the circulation is shut off prevents damage to the tissues. The temperature should be reduced as fast as possible but short of freezing. In cases of trauma, the prompt cooling of mangled or amputated extremities is indicated to prevent or arrest shock, infection and devitalization of tissues. In cases of severe trauma, refrigeration of the injured parts makes it possible to postpone débridement, amputation or other surgical measures until the patient's condition improves. Burns, not only on the extremities, but on other parts of the body, are best treated by the application of cold; as in other types of trauma, this treatment relieves pain and combats shock, infection and tissue devitalization.

The application of ice water or ice may be used as an emergency treatment, or cold applications after covering the burn with a single layer of petrolatum gauze (without preliminary débridement). Refrigeration at about 40° F. is first employed, then the temperature is gradually raised until a skin temperature of 60 to 70° F. is reached. For this treatment of burns, as for refrigeration anesthesia, the author prefers an electrical refrigerating apparatus to the use of ice. It has recently been realized also that the treatment of shocked patients does not require heat; when shock is due to injury the injured part should be cooled, and the body (rectal) temperature of the patient should be maintained at about 96° F. The temperature should be such as to avoid discomfort and shivering, and aid in reducing metabolism and the need for oxygen. Cooling of the body surface also provides more blood for the viscera.

COMMENT

The ice bag, cold compresses, ice itself, have been used for pain, congestion and infection from the earliest memory of man. Locally they are excellent and, on this principle, cold is being used more and more as an analgesic in medicine and surgery and to prevent shock. Systemically, crymotherapy or hypothermy was tried, following the work of Fay and Smith of Philadelphia, by the Lenox Hill group of New York in 1939-1940. While relieving intractable pain in most instances, this soon returned at the previous site or elsewhere on the resumption of normal temperature.

In this experiment, the room temperature was 55 F. Rectal temperatures were usually between 80-85 degrees; two went to 79.5 for two hours. Upon cessation of treatment, some of the temperatures rose to 100 to 101.5 and remained for 24-48 hours. The patients were quite hazy as to what transpired.

According to the observations reported, general hypothermy was found to have the following effects on the circulation: the pulse rate is slowed, there is marked generalised constriction of arteries, arterioles and veins and the blood pressure usually falls if the low temperature is kept beyond 24 hours; abnormalities of the T-wave in the electrocardiogram are always present, and of the Q.R.S. group occasionally; auricular fibrillation is common; electrical systole is prolonged. At the end of 24 hours there is a definite drop in the B.M.R., and a further drop at the end of 48 and 72 hours. Oscillometric readings were greatly reduced, due to the vasoconstriction. Shivering and movement made variations here as well as in the skin temperature radings.

In six out of 26 patients pneumonia followed the reduction of temperature. Five of these cases had pulmonary metastases. One followed aspiration.

The Office of the Surgeon General has been making studies of the effect of extreme cold upon men in service during the recent war. The European Theatre had the largest number of casualties from this cause, the Appennines campaign in the winter of 1943 and 1944 being especially severe, as foxholes filled with slush and ice water took their toll of frozen feet and lost toes. In the air, 4 or 5 miles up, exposure even for a moment might be fatal to fingers.

Red blood cells were clotted by the severe cold, plugging the circulation and leading to gangrene and the consequent loss of limbs. Major Nathan B. Friedman of the Army Institute of Pathology examined the tissues from the human cases, reporting that while cold had various effects due to degree and time of exposure, without exception, in all cases, the red cell plugs were present where circulation in a limb had been stopped.

Working with rabbits, Drs. Lange and Weiner of New York Medical College reproduced like conditions by immersing limbs in alcohol at minus 30° Centigrade for 30 minutes. Heparin would prevent clotting. Though subjected to such a severe degree of cold as the above, the rabbits recovered when properly thawed out. ***M.C.L.McG.***

THE AMERICAN UROLOGICAL ASSOCIATION AWARD

Urology Award—The American Urological Association offers an annual award not to exceed $500 for an essay (or essays) on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee. Essays must be in his hands before May 1, 1947.

The selected essay (or essays) will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, Buffalo, New York, June 30-July 3, 1947.

Medical BOOK NEWS

Edited by
ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, N. Y.

LAWSON TAIT
1845~1899

Classical Quotations

● Between 1851 and 1861, the French taught us the use of single bedsteads, and we introduced washhand basins and other lavatory arrangements to their notice, whilst the only permanent advantage either of the nations gained from the Crimean War was the use of the bath and bathroom, taught us by the Russians, widely used now in this country, not so widely in France.

LAWSON TAIT

The Bedstead is an Important Factor in Domestic Hygiene and Comfort. *Birmingham Medical Review*, May, 1899.

Sequel to "Burma Surgeon"

Burma Surgeon Returns. By Gordon S. Seagrave; M.D. New York, W. W. Norton & Co.,[c. 1946] 8vo. 268 pages, illustrated. Cloth, $3.00.

Those who had the pleasure of reading *Burma Surgeon*, will find equal, if not greater, delight in following our good friend "Daddy" Seagrave as the English, American, and Chinese forces drive the Japanese out of Burma, and allow the "bastard" medical unit of Dr. Seagrave to return to its original station. There is much again in this book of the fine work done by the native nurses and of the really excellent medical and surgical work done by the staff, without the full modern equipment of a Fifth Avenue hospital. To those trained in a modern city hospital, the results obtained by those doctors and nurses in a blasted wilderness seem almost unbelievable. They finally got a deserved unit citation and more personal honors.

JOSEPH RAPHAEL

Flight Surgeons in Action

Air Commando Doc. By Lt. Col. Robert Collier Page, M.C., A.U.S., as told to Lt. Alfred Aiken, D.C., A.U.S. New York, Bernard Ackerman, [c. 1945]. 8vo. 186 pages, illustrated. Cloth, $2.50.

This is the account by a medical officer of his experiences in connection with secret "PROJECT 9," which had to do with the landing of troops and supplies, by airships and gliders, behind the Japanese lines in the India-China-Burma theatre. The organization of the medical unit was supervised by Dr. Page and he has given us an interesting description of its formation. The story of how his unit functioned when on active duty makes a most readable war yarn. The PROJECT, incidentally, was a success and so, may we say, is Dr. Page's book. While in his training period in India, Dr. Page had occasion to observe something of the social and political situation of that unhappy country.

JOSEPH RAPHAEL

What Shall We Eat?

The Psychology of Diet and Nutrition. By Lowell S. Selling, M. D., & Mary Anna S. Ferraro. New York, W. W. Norton & Co., [c. 1945]. 8vo. 192 pages. Cloth, $2.75.

This book approaches the subject from the educational point of view rather than the therapeutic. It does not stress the conventional nutrition concept of providing food on the basis of taste, habits, or background but rather on what we have learned in the scientific daily requirement for the particular person, group, or even community. There is a discussion on the economics of foods and a chapter for the consumer.

The greatest portion of the book is a discussion of the feeding problems encountered in mental disorders, psychological maladjustments, and in those with behavior and personality changes.

This book does not contain food tables nor sample menus but adheres to the title of the subject matter. As the author puts it "The psychiatrist encounters in his practice the results of malnutrition upon mental processes and the effects of mental processes upon eating habits and attitudes."

MORRIS ANT

Modern Dynamic Psychiatry

Principles of Dynamic Psychiatry. Including an Integrative Approach to Abnormal and Clinical Psychology. By Jules H. Masserman, M.D. Philadelphia, W. B. Saunders Co., [c. 1946]. 8vo. 322 pages, illustrated. Cloth, $4.00.

THIS book presents for the first time an introduction to psychiatry which integrates the diverse viewpoints of the psychoanalyst, the experimental psychologist and the clinical psychiatrist. The data obtained from the study of experimental neurosis in animals is freely used to clarify the interpretation of clinical syndromes. The language is precise although there is perhaps an overuse of polysyllabic words. The glossary is useful, and for many people, essential.

The book should be valuable and enjoyable for experienced clinicians as well as for students.

ARTHUR SHAPIRO

National Health

Local Health Units for the Nation. A Report. By Haven Emerson, M.D., & Martha Luginbuhl. New York, Commonwealth Fund, [c. 1945]. 4to. 333 pages, illustrated. Paper, $1.25.

THIS compilation of data of Local Health Units is a complete résumé of health conditions in the whole nation. Each state is described individually.

It is shown that there is a great discrepancy in the administration of health services throughout the whole United States. The northern states provide for the largest per capita expenditure of money, while the southern states show the smallest. It is notable that in the states where there is a large negro population and a large suburban population the expenditure per capita is the lowest. Also, it is noted that in these states the birth rate is the highest as is also the death rate. Tuberculosis also runs at a high rate.

Because of this inequality of health activities throughout the country it would seem that a central national board of health would be a logical solution for the whole problem, in order to give to the underprivileged as much health supervision as that given to the better privileged classes.

ARTHUR D. JAQUES

How the Child Develops

How A Baby Grows. A Story in Pictures By Arnold Gesell, M.D. New York, Harper & Bros. [c. 1945]. 4to. 83 pages, illustrated. Cloth, $2.00.

THIS book, which consists for the most part of progressive pictures of the growing and developing child from early infancy and on into the pre-school year, can be read, reread, and perused with interest, appreciation, and helpfulness, not only by the general medical profession, but that large part of the lay public—the young mother and father. The text is in good, simple, and understandable English and this excellent pictorial volume might well be considered a MUST in the old family library.

JOHN C. HAMILTON

Public Health

Hygiene. By J. R. Currie, M.D. & A. G. Mearns, M.D. 2nd Edition. Baltimore, Williams & Wilkins Co., [c. 1945]. 8vo. 432 pages, illustrated. Cloth, $6.00.

This manual, written by two British public health physicians, is presented as a second edition brought up to date.

New developments in this field, which result from war experiences and advances in Social Medicine, are fully recognized in the revision of the subject matter.

The usual great variety of topics which concern public health are discussed in clear, concise fashion. For medical students this volume is well adapted; for medical officers and practitioners it is excellent for quick reference; for sanitary officers and others active in this type of work it is a good textbook.

The type used in printing is somewhat small, due probably to war limitations.

ALFRED E. SHIPLEY

Fractured Jaws

Fractures of the Jaws. By Robert H. Ivy, M.D., and Lawrence Curtis, M.D. 3rd Edition. Philadelphia, Lea & Febiger, [c. 1945]. 8vo. 174 pages, illustrated. Cloth, $4.50.

THE third edition of this volume is made necessary by the depletion of the two previous editions of this now standard textbook. It retains all the excellence of the first edition and in revision there have been several new methods of treatment of fractures of the jaw and many new illustrations. For those who are not familiar with the first editions let us say that *Fractures of the Jaws* contains all the information necessary for the treatment of these injuries, both superior maxillo and mandible. Any physician or dentist who will be called upon to handle cases of this type will do well to familiarize himself with this excellent volume.

LAWRENCE J. DUNN

Sexual Disturbances

The Diagnosis and Treatment of Sexual Disorders in the male and female, including sterility and impotence. By Max Huhner, M.D. 3rd Edition. Philadelphia, F. A. Davis, [c. 1945]. 8vo. 516 pages. Cloth, $4.50.

THIS third edition has been revised and new material added.

It contains nearly 500 pages covering the field of the various disorders of sex, including impotence and sterility. Dr. Huhner has attempted to make the work as practical as possible for use by the practitioner as well as the specialist.

A rather extensive bibliography is given at the end of the book.

AUGUSTUS HARRIS

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notices will be promptly published shortly after acknowledgment of receipt has been made in this column.*

Peptic Ulcer. Its Diagnosis and Treatment. By I. W. Held, M.D. & A. Allen Goldbloom, M.D. Springfield, Ill., Charles C. Thomas, 1946. 8vo. 382 pages, illustrated. Cloth, $6.50.

Die Periphere Innervation. By Professor Emil Villiger. Edited by Professor Eugene Ludwig. 10th Edition. Basel, Switzerland, Benno Schwabe & Co., 1946. 8vo. 172 pages, illustrated. Cloth, 16 Swiss fr.

L'Anemie Infectieuse. By G. Hemmeler. Basel, Switzerland, Benno Schwabe & Co., 1946. 8vo. 76 pages, illustrated. Paper, 5 Swiss fr.

Die Durchleuchtungstechnik Der Thoravorgane. By E. A. Zimmer. Basel, Switzerland, Benno Schwabe & Co., 1946. 8vo. 117 pages, illustrated. Cloth, 12 Swiss fr.

The Endeavor of Jean Fernel. With a List of the Editions of his Writings. By Sir Charles Sherrington. Cambridge, Eng., Cambridge University Press, (New York, Macmillan Co.), 1946. 8vo. 233 pages, illustrated. Cloth, $3.50.

Women in Industry. Their Health and Efficiency. By Anna M. Baetjer, Sc.D. Issued Under the Auspices of the Division of Medical Sciences and the Division of Engineering and Industrial Research of the National Research Council. Philadelphia, W. B. Saunders Co., 1946. 8vo. 344 pages, illustrated. Cloth, $4.00.

Renal Diseases. By E. T. Bell, M.D. Philadelphia, Lea & Febiger, 1946. 8vo. 434 pages, illustrated. Cloth, $7.00.

Sex Problems of the Returned Veteran. By Howard Kitching, M.D. New York, Emerson Books, [c. 1946]. 12mo. 124 pages. Cloth, $1.50.

The Affairs of Nicholas Culpeper. By Mabel L. Tyrrell. Philadelphia, Macrae-Smith Co., [c. 1946]. 8vo. 352 pages. Cloth, $2.50.

Digitalis and Other Cardiotonic Drugs. By Capt. Eli Rodin Movitt, M.C., A.U.S. New York, Oxford University Press, 1946. 8vo. 204 pages, illustrated. Cloth, $5.75.

Surgical Treatment of the Nervous System. Frederic W. Bancroft, M.D., Supervising Editor. Cobb Pilcher, M.D., Associate Editor. Philadelphia, J. B. Lippincott Co., [c. 1946]. 4to. 534 pages, illustrated. Cloth, $18.00.

Physiological Chemistry. By J. F. McClendon, Ph.D. 7th Edition. St. Louis, C. V. Mosby Co., [c. 1946]. 8vo. 463 pages, illustrated. Cloth, $4.25.

The Circulation of the Blood and Andrea Cesalpino of Arezzo. By Dr. John P. Arcieri. New York, S. F. Vanni, [c. 1945]. 8vo. 193 pages, illustrated. Cloth, $4.00.

Medical Education and the Changing Order. By Raymond B. Allen, M.D. New York, Commonwealth Fund, [c. 1946]. 8vo. 142 pages. Cloth, $1.50.

The Modern Treatment of Diabetes Mellitus. Including Practical Procedures and Precautionary Measures. By William S. Collens, M.D., & Louis C. Boas, M.D. Springfield, Ill., Charles C. Thomas, [c. 1946]. 8vo. 514 pages, illustrated. Cloth, $8.50.

Diabetes. A Concise Presentation. By Lt. Col. Henry J John, M.C. St. Louis, C. V. Mosby Co., [c. 1946]. 8vo. 300 pages, illustrated. Cloth, $3.25.

Medical Ethics for Nurses. By Charles J. McFadden, Ph.D. Philadelphia, F. A. Davis Co., [c. 1946]. 8vo. 356 pages. Cloth, $3.00.